



2608

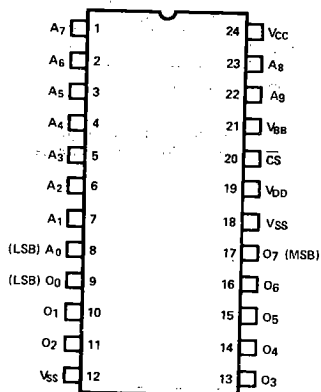
8K (1K × 8) FACTORY PROGRAMMABLE PROM

- Fast Access Time — 450 ns Max.
- Pin Compatible to 2708 EPROM and 2308 ROM
- Static — No Clocks Required
- Data Inputs and Outputs TTL Compatible
- Three-State Outputs — OR-Tie Capability

The Intel® 2608 is a 8192-bit, one-time factory-programmable MOS PROM organized as 1K words by 8 bits. The electrical characteristics are specified over the 0°C to 70°C operating temperature range with 5% power supply variation. The 2608 features are ideally suited for microprocessor systems: 450 ns maximum access time, three-state outputs for common bussing, and TTL inputs/outputs for easy interfacing.

A cost-effective system development program may be implemented by using the Intel® 2708 EPROM for pattern experimentation, the 2608 for first incremental 2308 ROM delivery and the 2308 for volume production. The 2608 is fully compatible to the 2708 in all respects. The fast factory 2608 code pattern turnaround time gives a rapid transition from EPROM to ROM for production.

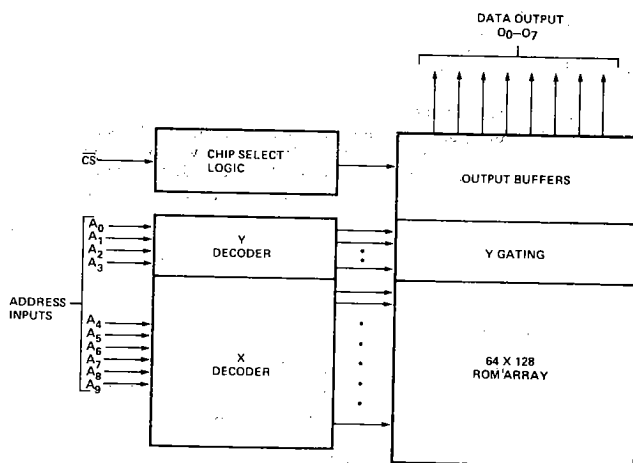
PIN CONFIGURATION



PIN NAMES

A ₀ -A ₉	ADDRESS INPUTS
O ₁ -O ₈	DATA OUTPUTS/INPUTS
CS	CHIP SELECT/WRITE ENABLE INPUT

BLOCK DIAGRAM



MODE SELECTION

MODE	PIN NUMBER						
	DATA I/O 9-11 13-17	ADDRESS INPUTS 1-8, 22,23	V _{SS} 12	V _{DD} 19	CS 20	V _{BB} 21	V _{CC} 24
READ	DOUT	A _{IN}	GND	+12	V _{IL}	-5	+5
DESELECT	HIGH IMPEDANCE	DON'T CARE	GND	+12	V _{IH}	-5	+5

Absolute Maximum Ratings*

Temperature Under Bias	-25°C to +85°C
Storage Temperature	-65°C to +125°C
V _{DD} With Respect to V _{BB}	+20V to -0.3V
V _{CC} and V _{SS} With Respect to V _{BB}	+15V to -0.3V
All Input or Output Voltages With Respect to V _{BB}	+15V to -0.3V

***COMMENT**

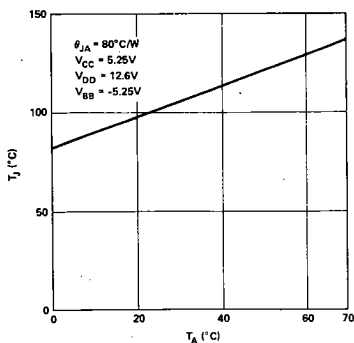
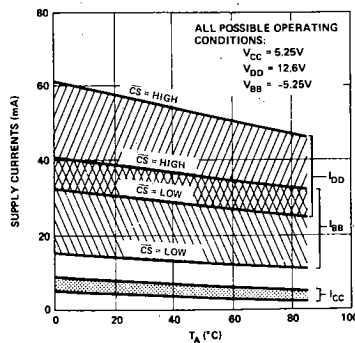
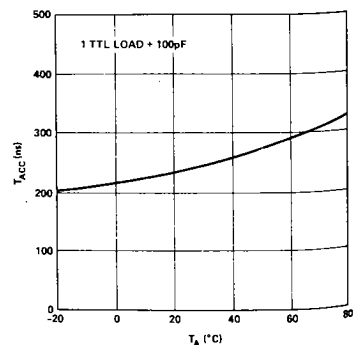
Stresses above those listed under "Absolute Maximum Ratings" may cause permanent damage to the device. This is a stress rating only and functional operation of the device at these or any other conditions above those indicated in the operational sections of this specification is not implied. Exposure to absolute maximum rating conditions for extended periods may affect device reliability.

D.C. and Operating Characteristics

T_A = 0°C to 70°C, V_{CC} = +5V ±5%, V_{DD} = +12V ±5%, V_{BB}^[1] = -5V ±5%, V_{SS} = 0V, unless otherwise noted.

Symbol	Parameter	Min.	Typ. ^[2]	Max.	Unit	Conditions
I _{LI}	Address and Chip Select Input Sink Current		1	10	μA	V _{IN} = 5.25V or V _{IN} = V _{IL}
I _{LO}	Output Leakage Current		1	10	μA	V _{OUT} = 5.5V, CS/WE = 5V
I _{DD} ^[3]	V _{DD} Supply Current		50	65	mA	Worst Case Supply Currents: All Inputs High CS/WE = 5V; T _A = 0°C
I _{CC} ^[3]	V _{CC} Supply Current		6	10	mA	
I _{BB} ^[3]	V _{BB} Supply Current		30	45	mA	
V _{IL}	Input Low Voltage	V _{SS}		0.65	V	
V _{IH}	Input High Voltage	3.0		V _{CC} +1	V	
V _{OL}	Output Low Voltage			0.45	V	I _{OL} = 1.6mA
V _{OH1}	Output High Voltage	3.7			V	I _{OH} = -100μA
V _{OH2}	Output High Voltage	2.4			V	I _{OH} = -1mA
P _D	Power Dissipation			800	mW	T _A = 70°C

- NOTES:** 1. V_{BB} must be applied prior to V_{CC} and V_{DD}. V_{BB} must also be the last power supply switched off.
 2. Typical values are for T_A = 25°C and nominal supply voltages.
 3. The total power dissipation is specified at 800 mW. It is not calculated by summing the various currents (I_{DD}, I_{CC}, and I_{BB}) multiplied by their respective voltages since current paths exist between the various power supplies and V_{SS}. The I_{DD}, I_{CC}, and I_{BB} currents should be used to determine power supply capacity only.

Typical Characteristics**MAXIMUM JUNCTION TEMPERATURE VS. AMBIENT TEMPERATURE****RANGE OF SUPPLY CURRENTS VS. TEMPERATURE****ACCESS TIME VS. TEMPERATURE**

A. C. Characteristics

$T_A = 0^\circ\text{C}$ to 70°C , $V_{CC} = +5\text{V} \pm 5\%$, $V_{DD} = +12\text{V} \pm 5\%$, $V_{BB} = -5\text{V} \pm 5\%$, $V_{SS} = 0\text{V}$, unless otherwise noted.

Symbol	Parameter	Limits			Units
		Min.	Typ.	Max.	
t_{ACC}	Address to Output Delay		280	450	ns
t_{CO}	Chip Select to Output Delay		60	120	ns
t_{DF}	Chip Deselect to Output Float	0		120	ns
t_{OH}	Address to Output Hold	0			ns

CAPACITANCE^[1] $T_A = 25^\circ\text{C}$, $f = 1\text{ MHz}$

Symbol	Parameter	Typ.	Max.	Unit.	Conditions
C_{IN}	Input Capacitance	4	6	pF	$V_{IN} = 0\text{V}$
C_{OUT}	Output Capacitance	8	12	pF	$V_{OUT} = 0\text{V}$

A.C. TEST CONDITIONS:

Output Load: 1 TTL gate and $C_L = 100\text{ pF}$

Input Rise and Fall Times: $\leq 20\text{ ns}$

Timing Measurement Reference Levels: 0.8V and 2.8V for inputs; 0.8V and 2.4V for outputs.

Input Pulse Levels: 0.65V to 3.0V

Note: 1. This parameter is periodically sampled and is not 100% tested.

Waveforms

